DOCUMENT RESUME

ED 168 496 IR 006 986

AUTHOR Yanchoff, Catherine
TITLE Criteria for Collection Analysis in the Academic Library.
PUB DATE 78
NOTE 29p.; Not available in hard copy due to marginal legibility of the original

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Academic Libraries; Bibliographies; *Evaluation Criteria; *Library Collections; Literature Reviews; *Research Criteria; Technological Advancement

ABSTRACT

An assessment of literature from journals, reports, and monographs on criteria for the analysis of academic library collections reveals that there are four primary methods which have been employed in the past and are still being utilized: (1) impressionistic, (2) bibliographic list comparison, (3) measuring unit costs, and (4) quantitative standards. Only recently have there appeared relatively innovative approaches, such as the application of new technology, bibliometrics, and more illustrative sampling techniques. In addition, there have been more frequent and varied discussions as to how the results of these analyses might be more fully utilized. A national effort toward developing readily-available profiles of published materials, to be used in conjunction with institutional profiles for analytical and evaluative purposes, would be a logical step in collection analysis considering the fact that computer technology awaits a practical application. (Author/JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED168496

UNIVERSITY OF SOUTHERN CALIFORNIA

CRITERIA FOR COLLECTION ANALYSIS IN THE ACADEMIC LIBRARY

BY

CATHERINE YANCHEFF

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Catherine Yancheff

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

SCHOOL OF LIBRARY SCIENCE

SPRING 1978

L K0069B6

ABSTRACT

An assessment of literature from journals, reports, and monographs on criteria for the analysis of academic library collections reveals that there are four primary methods which have been employed in the past and are still currently being utilized including: 1) impressionistic; 2) bibliographic list comparison; 3) measuring unit costs; and 4) quantitative standards.

There has been some expansion upon such traditional ideas, however only recently have there appeared relatively innovative approaches with regard to the application of new technology, bibliometrics, more illustrative sampling techniques, etc. In addition, there have been more frequent and varied discussions as to how the results of these analyses might be more fully utilized.

Recommendations for a national effort toward developing readily-available profiles of published materials, to be used in conjunction with institutional profiles for analytical and evaluative purposes is discussed.

CRITERIA FOR COLLECTION ANALYSIS IN THE ACADEMIC LIBRARY

Introduction

Today, the academic library budget is such that librarians can no longer afford to purchase materials based solely on the fact that they "think" they are appropriate. Statistical data derived from collection analysis is needed now, more than ever, to provide the foundation for sound managerial technique. The subject of collection analysis is not a new one in library literature, in fact, the writings have been quite extensive, and although the topics tend to simply be new variations on old themes, intermittently an interesting article appears.

Essentially, there are two approaches whereby the analyst may determine the adequacy of the collection: the quantitative or qualitative evaluation. Many librarians immediately dismiss the worth of quantitative figures, arguing that adequacy cannot be determined by a simple count; of course, the quantitative studies which first come to mind, such as the Clapp-Jordan[1] formula, offer little more than simple statistics and tabulations--certainly elaboration upon such work is needed.

Qualitative research, on the other hand, is not only difficult to obtain, but once obtained it presents an even greater challenge to analysts attempting to quantify it for statistical analyses.

Traditional Approaches to Collection Analysis

Libraries have been concerned with the makeup of their collections for quite some time. Even as early as 1937 the ALA applauded the efforts of Blanche McCrum who attempted to evaluate a collection by means of questionnaires and bibliographic lists.[2] For what purpose though should a library analyze its collection? For what data should they search?

Perhaps Rudolph Hirsch put the question best when he asked: "When is the right book in the right place, and who is going to decide?"[3] In his discussion of collection evaluation, Hirsch considers the concept of "evaluation" or analysis itself:

> Since evaluation, or evaluating, is the determination of values, the next question follows almost automatically: what values are we talking about? . . . Economic values, ethical, moral or religious values, aesthetic values, intellectual and logical values, political or social values . . . While these values may in theory be objective they become relative when measured against service. What actual and potential service is rendered by a single volume, a group of books, or the entire collection?[4]

Continuing he queries: "Is service to be measured solely in terms of actual borrowers, or must we concern ourselves as well with the effect which these readers may have on others when the actual client acts as a carrier of knowledge or ideas?"[5]

Hirsch suggests four primary methods for performing collection analysis.[6] Although he was not the first to propose such methods he was one of the first to present a detailed discussion of the same. These methods have been the basic means of analysis in the past and continue to function as such today, although computer technology and greater emphasis on statistical

analyses have created alternative approaches, as shall be seen.

The first method discussed by Hirsch examines the collection in terms of the policies and purposes of the library. The judgment should be made on the basis of individual or collective knowledge and reasoning, i.e. professional judgment. Persons conducting such evaluations would include librarians, scholars or well-informed laymen or any mixture of these types. An evaluation of this type is termed "impressionistic."[7]

Secondly, he suggests that checklists and/or bibliographies be utilized. For fictional works analysts would consult such works as Publisher's Weekly, the New York Times and Book Review Digest. Additionally, one would consult the basic lists for colleges, universities, and junior colleges. One must, of course, bear in mind the potential obsolesence and mortality of such lists.[8]

A third method concerns itself with the unit costs of the collection. Circulation figures together with statistics measuring the use of materials in the library provide the data for this method. This, however, necessitates interpretation on the part of the analyst wherein he must consider: 1) the objectives of the library and 2) the value to be attached to the circulation of individual titles or groups of titles in view of these objectives.[9]

The fourth method does not concern itself with the individual unit of a collection but rather with the particular classes or disciplines over a given period of time. Data is obtained from other institutions for comparison, relating the expenditures to total size of the collection, annual additions,

percentage of acquisition expenditures within the total institutional budget, etc.[10] This is considered the purely quantitative approach and is given full consideration (with variation) by Clapp and Jordan.

In their study, Clapp and Jordan challenge the accepted doctrine which asserts that the adequacy of an academic library cannot be measured by the number of books which it contains.[11] The development of their formula by which they analyze a collection for minimum adequacy is based upon the combined effect of the variables constituting the controlling factors in each case, including: 1) the student body; 2) faculty--size, involvement in research, "library-mindedness," etc.; 3) curriculum--method of instruction, extent and use of textbooks, etc.; 4) availability of suitable places for study on campus; 5) geography of the campus--proximity to metropolitan areas, to other large libraries, etc.; and 6) the intellectual climate--inducements and distractions to study.[12]

The authors suggest 42,000 volumes as the basic collection for an undergraduate library. Add another ten volumes for each enrolled student; sixty volumes for each full-time faculty; twelve for each undergraduate enrolled in independent study or honors courses; 2,400 for every field in which study for a masters degree is undertaken; and 1,800 for every field in which study for the doctorate is undertaken. A similar formula is provided for the junior college as well.[13] This is perhaps the most well-defined and easily applied formula for a strictly quantitative analysis discussed in the literature. The recent ACRL

"Standards" provide a similar formula.[14]

No doubt one of the landmark works pertaining to collection analysis is Fussler's Patterns in the Use of Books in Large Research Libraries. The primary object of Fussler's research was to formulate "'rules' of functions that could be used to identify little-used books for storage."[15] In so doing, Fussler designated the particular areas to be given consideration long-term use and demographic characteristics, including language in the work was written, dates of publication and of access by said library. A cross-sectional study was performed as opposed to a longitudinal study, i.e. he compared books of different ages rather than one book during different stages, and as an independent variable he used the recorded circulation during a five-year period. The independent variables included the aforementioned demographic characteristics along with any use beyond the five-year dependent variable.

In his study he concluded that the past use of a title, if examined over a sufficiently long period, is an excellent and by far the best predictor of the future use of that title. Furthermore, the greater the cumulative nature of the discipline--as in the sciences--the less the historical, form, or author orientation, the more effective will be functions in which the age of the book is an important variable. In conclusion he says that for libraries that have records of use available for twenty years or more, the variable of past-use is sufficiently powerful that the objective-characteristic variables make little further contribution. This is an important point to be considered by those

opponents of quantitative analysis. However, Fussler does suggest that any "mechanical" system of selecting books for storage would be improved considerably if one or more scholars reviewed the titles recommended for storage. Surely any person performing a collection analysis should familiarize himself with Fussler's work.

Building Upon Tradition

As has already been mentioned, most of the literature concerning collection analysis seemed to be little more than reiterations of the basic ideas presented above; in fact, precisely this fact was often noted:

> Yardsticks and quotations for "hands-on" library resources are important in our library society. Accrediting agencies, governmental surveys and librarians judge the quality of a collection as measured by quantity. It will be a long time before statistics of on-campus library resources will be affected or modified by statistics of procurement. Until that time, the sliding scale or formula of materials against program and potential users remains the best solution.[16]

Nonetheless, there remain some studies worth noting.

Mount and Pasana discuss a study wherein twelve types of surveys were employed to measure and evaluate users, services, and materials during 1968-69.[17] The evaluation of these surveys was conducted in 1970-71. Being concerned with the evaluation of materials, we considered the latter surveys. Their purpose was to estimate the potential use of monographic literature already in the collection. Random samples of shelves in each library were taken and then faculty and librarians were asked to evaluate as to probable use of the literature. This type of

survey corresponds with Hirsch's first method of analysis. The problems with this sort of survey were aptly stated by Charles Martell in an editorial response:

> Librarians and faculty, "knowledgeable" users of library services themselves . . . dictate values for the remainder of the user population of over 90%. The basis of their judgment: an intuitive sense of the popular versus the esoteric.[18]

In 1971, Otterson stated in the introduction to "a bibliography on Standards for Evaluating Libraries," "much has been written on standards, but less in the nature of significant facts based on actual experience in developing and applying criteria."[19] For example, in 1972 Bach concerned himself with the two methods of collection analysis "commonly" used at the time he wrote his article: faculty opinion and bibliographic checking--how little we've advanced since McGrath[20] Other procedures which he discussed were comparisons with other institutions, availability checks, and sampling techniques. One cannot help but begin to wonder, if everyone is comparing and checking lists, who are the people compiling these lists in the first place and with what institution . . . what goal . . . what purpose in mind? Can so many diverse institutions really find satisfaction by comparison against lists designed without their specific needs in mind?

To continue, within a science and technology library at the University of Idaho the holdings were compared with lists of materials published by professional societies, basic lists in various disciplines, holdings of other libraries, availability of indexing and abstracting services and serials covered therein.[21]

In 1969 Soule noted that "... bibliographic checking seems to be the most feasible way to evaluate [the library's] holdings..."[22]

At the University of Florida, Echelman noted that the LC catalog was used as a means of measurement.[23]

At Mount Holyoke College, Sullivan explains, the analysis is done by faculty and library staff. Circulation statistics, bibliographic lists and "common sense" are also used.[24]

More currently, the most elaborate survey conducted with regard to collection analysis has been that completed by the Systems and Procedures Exchange Center of the Association of Research Libraries. Posing the question to many ARL members: "Has your library attempted to evaluate systematically the collection of a portion of it?"--they received responses with some form of collection face fortyone (82 percent). Of the respondents, nine (18.4 percent) plan to evaluate their collections by "multiple methods. These range from checking subject against student bibliographies, consulting with faculty, and seeking the advice of outside consultants to a less systematic approach whereby subject bibliographers write descriptive essays detailing the strengths and weaknesses of subject collections under their individual control. Five (10 percent) presented their whole evaluation in by reference to the institution's goals and objectives; unfortunately, methodology is not discussed. Three (6.1 percent) cited quantitative methods as their original approach, including staff list counts and number of titles in Dewey and LC classification systems. Evaluation by comparison with student bibliographies was conducted by eleven (22.5 percent)

of the literature. Each employs terms from "sensitivity" to "post-criteria." Section 230.5 reminds of the literature reports that they survey "selected areas" of state militancies by means of questionnaires or through examinations from outside consultants or interviewers. Under the category of "other" two respondents (10.0 percent) noted various points of interest. They range from the scrupulous that "no areas by itself can be true" to the affectation that employee was attempted but "was unsuccessful."[23]

Although none of the respondents appeared to have certain liberal core form of criteria for employ, few seemed to be consistently systematic. As one respondent noted: "Each candidate may be has strong a term."[24] With all the variables and non-specifics that be a library one would expect a systematic approach to employ be to the rule rather than the exception. Most administrators appear to be unconcerned.

Perhaps one of the [illegible] will provide out attempts at selection employ has been that undertaken by the state state association of College and Secondary Schools.[25] They state that a prerequisite of any selection employ is an exact description of the institution's mission and the means by which the institution proposes to fulfill it. Aside as this statement may sound, almost all of the literature reviewed appeared to take it into account. The implication seem as to any that the use of the library by students is the ultimate test of the effectiveness.

We now noted in the beginning of this point, one must not consider the precise purpose of the employ being undertaken

"to determine collection adequacy" is unclear and nondescript. The Association proposes that the following questions be asked. Is the library collection:

1. Broad, varied, authoritative, and up-to-date
2. Supplemented by source, monographic and periodical literature for advanced study/research
3. Sufficient for specialized and technological fields offered by the institution
4. Being expanded so as to fill in gaps
5. Weeded efficiently to keep it solid and current
6. Supplemented by, not replaced by interlibrary loan
7. Such as to facilitate advanced study and research by faculty
8. Supplied with enough new books to keep abreast of advances in the fields of instruction and research of the institution[29]

These questions can be answered, but only by employing several methods of analysis, not just one. Perhaps therein lies part of the reason for haphazardness and lack of quality in collection analyses. There can be no one method of analysis because there is no one answer to the question of adequacy. Analytical studies deal in specifics, not generalizations. One should not ask "Is ours an adequate collection?" but instead should address themselves to each of the aforementioned questions. The data which will provide the answers for each will differ, so then too, should the questions asked to derive such data. Fussler's methodology may most adequately be employed to determine which materials may be stored without causing constant disruption of research; McGrath's LC classification of academic courses can be used to determine curriculum support[30] while Bradford-Zipf Distributions[31] and Clapp-Jordan[32] quantitative studies determine whether quantitative standards are met.

New Perspectives and Advanced Technology

By and large the literature of the 1970's concerning collection analysis reveals little innovation, however evidence of advancement in technological application and as well as new ways of utilizing the results of analyses occasionally surface.

One such application of results is discussed by Knightly.[33] The study involved a group of twenty-two Texas state-assisted senior college and university libraries which, in attempting to establish a network analyzed their collections for duplication or overlap. The methodology they employed was a stratified random sampling from American book titles published in a given year in each of nineteen subject fields as recorded in American Book Publishing Record. As a result the libraries established a network wherein they were more fully able to utilize the available collections to the best advantage.

More recently, Pratt has discussed the use of bibliometrics in collection analysis. He notes that there is some progress being made in bibliometrics--the development of a means whereby one can measure and predict library-related phenomena with models which reflect reality reasonably well. "In particular," he explains, "there seems to be a growing belief that many bibliometric phenomena and their relationships may be described by some forms of exponential or logarithmic functions." This is exemplified when one considers that a collection of related books or journals or papers gains the same degree of utility in going from 100 items to 1,000 as in going from 1,000 to 10,000, etc.[34]

Several distribution models have been developed which, when applied in individual collections have held true. One such distribution, the Bradford-Zipf, has already been mentioned, still another would be the Whitworth Distribution which is the discrete analog of the continuous logarithmic function, to describe the distribution of books over subject classes.[35] Unfortunately, much of the work accomplished in the field of bibliometrics has gone unheeded due to the fact that it is often written in such a form which is of little benefit to those who are not accomplished in econometrics or statistical analysis.

Although the use of circulation statistics in and of themselves is not a new approach to collection analysis, such statistical compilation is becoming more sophisticated through the use of computer systems. For instance, computer-produced statistics were used at Bucknell to analyze the circulation statistics by LC classification and academic department. Circulation was compared to the number of volumes which were then related to each department in order to determine how much the department was using the subject-related book collection. Circulation was also compared with the number of students in that particular department. Consequently, these two comparisons identified areas of the collection that were under- or heavily-utilized.[36]

Baughman recently suggested using the "structural approach" to collection development and analysis.[37] "Structural approach" involves the study of the behavior and properties of a subject literature, not its intellectual content per se. Three areas are given full consideration:

1. Associated subjects--relationships between subjects are established on both macro and micro levels. These subject levels are determined through the use of subject headings from, in the case of social science, Social Science Index. Group headings with more than eleven entries are reorganized into LC categories. The same is then done on a micro basis using the cross-references from Social Science Index, e.g. "sociology" see also "social deviance;" thus "sociology" would provide the macro subject heading and "social deviance" the micro. The subject classes are then applied to the collection.

2. Form--concentrate on books or journals. Note citations from journals to determine whether the authors are employing the use of serial or non-serial materials.

3. Core publishers--"Bradford's Law"[38] Baughman suggests that a count of the monographs be taken from the sample journal articles. In his own analysis pertaining to sociology this constituted forty-six monographs. Fifty percent of the monographs were accounted for by twenty-one publishers or 12.6 percent.[39]

Another interesting study discussed in the literature was undertaken by Goldstein and Sedransk wherein they explain a sampling procedure used to identify characteristics of a collection, which can then be used in an evaluative statement and in the description of the scope of the collection. Quantitative analysis is based upon: 1) a measurement of the linear feet of library material on the shelf; 2) a physical volume count; and 3) use of the shelflist measurement. Qualitative analysis

whereby the library attempts to support quantitative statements is accomplished by: 1) checking the appropriate bibliography; 2) consideration of the levels of programs which the collection supports; and 3) the size of the student body and faculty who use it. The authors claim that their study will "indicate the strengths of the collections, special interests, periods of heavy acquisition and/or publishing, and book selection policies." In this article the authors provide the reader with a statistical formula for sampling which would allow for a confidence level of 95 percent when transferring the results of $\hat{P}$ to P.[40]

Conclusions and Recommendations

After considerable research, discussion, and thought there is but one conclusion which this author can make with respect to the present-day methods of collection analysis in most academic libraries: at best, they are "developing;" at worst, they are archaic. From as early as 1930 the four basic methods of collection analysis have been: 1) impressionistic; 2) bibliographic list comparison; 3) measuring unit costs; and 4) quantitative standards. Within the library literature these methods have been rehashed over and over without any real consideration given to a totally new approach nor attempts made to utilize, with, perhaps, the aid of grant monies, the sophisticated technology currently available.

One cannot expect adequate analyses of collections of millions, or even thousands of volumes to be conducted without the extensive use of computers--and nowhere in the literature is

such a case evident. In much the same way that libraries help book "jobbers" develop "profiles" for their acquisitions, so too should they develop even more extensive pr[illegible]les for evaluation purposes. Detailed considerations should be given to those points noted by the Middle States Association, as well as any other peculiar to the institution itself. Certainly, too, these profiles should provide for a means whereby the collection remains current with specified bibliographic listings, however, this, in and of itself, provides evaluators with little more than descriptive data; it says nothing about how adequately an institution is meeting its goals and objectives through its collection.

Academic libraries have long passed the point where an elaborate, coordinated joint effort, similar to that now in effect with OCLC, must be attempted. With the aid of federal and private grant monies this grand-scale project could be undertaken. Briefly then, this project would be designed to present a complete profile of every book. The information would include such data as is collected within OCLC, with LC breakdowns in accordance with the guidelines established by the Collection Development Committee of the ALA,[41] as well as other data such as language, time period covered, geographic coverage, associated subjects as described by Baughman, etc.--with arrangement by ISBN. For earlier works another entry number could be used, however ISBN is suggested because it could be used for easy coding by the institution's acquisitions department when an item is purchased to indicate date of purchase, cost, number of copies, etc. All information, of course, would be coded as designated by the

computer programmer for later use in regression analyses or whatever type of analysis deemed necessary for the particular institution. Tapes could then be purchased from the central institution (such as Ohio College with OCLC) with appropriate blank areas on the tapes for the individual institutions' input pertaining to acquisitions, etc. If this project were conducted through a combined effort such as is demonstrated with OCLC it would be most feasible, particularly when one weighs the costs of developing a collection outside the goals and needs of the institution--and poor collection analysis can result in just that! Such a plan as is recommended would require cooperation with the computer center of the institution, but certainly arrangements could be made along with the employment of a part- or full-time programmer.

Perhaps this suggestion appears too cumbersome. If so, then two separate data bases could be established: one pertaining to the descriptive data itself and another dealing with the acquisition data. In either case, it is evident that libraries must begin to operate more efficiently under the direction of more knowledgeable administrators. There is no longer an excuse for not knowing what exists in one's library collection or how well it supports the goals and objectives it claims, when computer technology so readily awaits practical application. With the availability of computer systems librarians should become more fully aware of their potential use and employ them for all major operations including acquisition procedures, cataloging, serial records and controls,

circulations, descriptions, and complex statistical operations, not simply for "listings." In this case Machlup makes the point quite clear:

> We can trust the economic forces in operation to make library administrators realize that the old saying "ignorance is bliss" does not apply any longer to their management techniques.[42]

NOTES

1. V. W. Clapp and R. T. Jordan, "Quantitative Criteria for Adequacy of Academic Library Collections," College & Research Libraries 26 (September 1965): 371-380.

2. Blanche P. McCrum, "A College Library Makes Its Own Survey Plan," ALA Bulletin 31 (1937): 947-952.

3. Rudolph Hirsch, "Evaluation of Book Collections," in Library Evaluation, ed. Wayne S. Yenawine (Syracuse, N.Y.: Syracuse University Press, 1959), p. 9.

4. Ibid., pp. 7-8.

5. Ibid., p. 9.

6. Ibid., pp. 13-18.

7. Ibid., pp. 13-14.

8. Ibid., pp. 14-15.

9. Ibid., pp. 15-16.

10. Ibid., pp. 16-18.

11. Sam S. Ifidon, "Qualitative/Quantitative Evaluation of Academic Library Collections: A Literature Survey," International Library Review 8 (June 1976): 304.

12. Clapp and Jordan, p. 373.

13. Ibid., p. 374.

14. Association of College and Research Libraries, "Standards for College Libraries," (Chicago: American Library Association, 1975).

15. Herman H. Fussler and Julian L. Simon, Patterns in the Use of Books in Large Research Libraries (Chicago: University of Chicago Library, 1951), p. 257.

16. Donald D. Hendricks, "Standards for College Libraries," Texas Library Journal 48 (May 1972): 74-76.

17. Ellis Mount and Paul Pacana, "An Approach to the Measurement of Use and Cost of a Large Academic Research Library System: A Report of a Study Done at Columbia University Libraries," College & Research Libraries 33 (May 1972): 199-211.

18. Charles Martell, letter to the editor, College & Research Libraries 33 (November 1972): 485-486.

19. Signe Ottersen, "A Bibliography on Standards for Evaluating Libraries," College & Research Libraries 32 (March 1971): 127.

20. Harry Bash, "The Junior College Library Collection," California Librarian 33 (April 1972): 98-99.

21. Evaluation of the Holdings in Science/Technology in the University of Idaho Library, 1968, cited by Ottersen, 8.

22. Robert P. Coale, "Evaluation of a Research Library Collection: Latin-American Colonial History at the Newberry," Library Quarterly 35 (July 1965): 173-184.

23. Paul B. Kebabian, "The Distance to a Star: Subject Measurement of the Library of Congress and University of Florida Collections," College & Research Libraries 27 (July 1969): 267-270.

24. Flora B. Ludington, "Evaluating the Adequacy of the Book Collection," College & Research Libraries 1 (September 1940): 305-313.

25. Association of Research Libraries, Office of Management Studies, Systems and Procedures Exchange Center, "Collection Development in ARL Libraries," SPEC Kit, no. 11 (Washington, D.C.: Association of Research Libraries, 1974).

26. Association of Research Libraries, "Collection Development in ARL Libraries," p. D-8.

27. Association of Research Libraries, "Collection Development in ARL Libraries," p. D-1.

28. Middle States Association of College and Secondary Schools, Commission on Institutions of Higher Learning, "What to Consider in Evaluating the Library," Library Journal 83 (June 1, 1958): 1656-1658.

29. Middle States Association of College and Secondary Schools, "What to Consider in Evaluating the Library," pp. 1657-1658.

30. This assumption that curriculum courses can be classified similarly to the subject content of books is explored in William J. Gedsath and Norma Durand, "Classifying Courses in the University Catalog," College & Research Libraries 30 (November 1969): 533-539 and the later work by Gedsath, "The Significance of Books Used According to a Classified Profile of Academic Departments," College & Research Libraries 33 (May 1972): 212-219.

31. An interesting discussion of this distribution and its relationship to language data may be found in Belver C. Griffith and Beth Kreviti, "A Comparison of Several Zipf-Type Distributions in Their Goodness of Fit to Language Data," Journal of the American Society for Information Science 23 (May-June 1972): 222-2221.

32. Clapp and Jordan.

33. John J. Kennedy, "Library Collections and Academic Curricula: Quantitative Relationships," College & Research Libraries 36 (July 1975): 295-331.

34. Allen B. Pratt, "Libraries, Economics, and Information: Recent Trends in Information Science Literature," College & Research Libraries 36 (January 1975): 33-39.

35. "Some Remarks on Elitism in Information and the Invisible College Phenomenon in Science," Journal of the American Society for Information Science, vol. 22, n. 2, cited by Pratt, p. 74.

36. George A. Jenks, "Circulation and Its Relationship to the Book Collection and Academic Departments," College & Research Libraries 37 (March 1976): 145-152.

37. Jesse C. Boucher, "Toward a Structural Approach to Collection Development," College & Research Libraries 38 (May 1977): 241-249.

38. A term commonly used, "Bradford's Law" implies that roughly eighty percent of the publications demanded are supplied by about twenty percent of the publishers; thus these are considered the "core publishers."

39. Boucher.

40. Marianne Goldstein and Joseph Sedransk, "Using a Sample Technique to Describe Characteristics of a Collection," College & Research Libraries 38 (May 1977): 195-202.

41. American Library Association, Resources and Technical Services Division, Resources Section, Collection Development Committee, "Guidelines for the Formulation of Collection Development Policies," Library Resources & Technical Services 21 (Winter 1977): 40-47.

42. Fritz Nachlin, "Our Libraries: Can We Measure Their Holdings and Acquisitions?" ARL Bulletin 62 (October 1976): 8.

Alexander, Carmen Dale. "A Suggested Model Document to Serve as a Guide for Evaluating the Adequacy of Academic Library Collections in American Colleges and Universities." Ph.D. dissertation, University of Southern California, 1973.

American Library Association. Committee on Accreditation. Standards for Accreditation, 1972. Chicago: American Library Association, 1972.

American Library Association. Resources and Technical Services Division. Resources Section. Collection Development Committee. "Guidelines for the Formulation of Collection Development Policies." Library Resources & Technical Services 21 (Winter 1977): 40-47.

Association of College and Research Libraries. "Standards for College Libraries." Chicago: American Library Association, 1975.

Association of College and Research Libraries. Ad Hoc Committee to Revise the 1959 Standards. "Draft: Standards for College Libraries, 1975 Revision." College & Research Libraries News, 35 (December 1974): 258-265.

Association of College and Research Libraries. Committee on Liaison with Accrediting Agencies. "Guide to Interpretation of Library Evaluation." College & Research Libraries News 9

Association of Research Libraries. Office of Management Studies. Systems and Procedures Exchange Center. "Collection Development Policy Statements." SPEC Kit no. 26. Washington, D.C.: Association of Research Libraries, 1976.

Bart, Barry. "Evaluation of the University Library Collection." Library Resources & Technical Services 2 (Winter 1958): 5-14.

_____. "The Junior College Library Collection." California Librarian 33 (April 1972): 99-103.

Beaubien, Anne K. "Toward a Structural Approach to Collection Development." College & Research Libraries 39 (May 1978): 261-269.

Blanchard, J. Richard. "Planning the Conversion of a College to a University Library." College & Research Libraries 29 (May 1968): 209-216.

Bone, Larry E. "Evaluation of the Collection." Library Trends 19 (January 1971): 310-319.

Carter, Mary D.; Bone, Larry E.; and Powell, Dora B. Building Library Collections. 4th edition. Metuchen, N.J.: Scarecrow Press, Inc., 1974.

Carroll, Mary D. and Jones, Dora M. "The Evaluation of a University Library Collection." The Evaluation of Library Resources. Chicago: American Library Association, 1948.

Chen, Ch'ao-sheng and Hartel, Peter. "Quantitative Criteria for Adequacy of Undergraduate Library Collections." College & Research Libraries 29 (September 1968): 463-476.

Cook, Robert. "Evaluation of a Research Library Collection: Interpretation Obtained Through Use of the Standard." Library Quarterly 39 (July 1969): 273-284.

De Gennaro, Sarah. "Some Thoughts on Books in Reference and the Emerging College Program in Science." Problems of the Academic Library for Elementary Science. Chicago: Graduate Library School, University of Chicago, 1962: 75.

Downs, Robert B. "Collection Evaluation and the College Library." College & Research Libraries 13 (July 1952): 205.

Fairchild, Robert. "Evaluation of the Research College Book Collection." Library Journal 97 (May 1972): 1750-1753.

Fussler, Herman. "Evaluation Policy: Common Denominator Library." College & Research Libraries 29 (March 1968): 93-107.

Fussler, Herman and Simon, Julian. Patterns in the Use of Books in Large Research Libraries. Chicago: University of Chicago Press, 1969.

Gelfand, Morris and Evans, Glen. "Use of a University Library Collection: A Research Report on a Discussion Problem." College & Research Libraries 13 (October 1952): 330-338.

Hamlin, Ann. "Brief Statement of Goals for an Academic Library." UCLA Librarian 25 (March 1971): 10-12.

Gillham, Virginia and Black, John B. "Administrative and Bibliographic Uses of COM (Computer Output Microfilm) in an Academic Library." Paper presented at the 7th Ontario University Computing Conference, Waterloo, Ontario, Canada, 2-4 June 1976.

Golden, Barbara. "A Method for Quantitatively Evaluating a University Library Collection." Library Resources & Technical Services 18 (Summer 1974): 263-274.

Goldstein, Marianne and Sedransk, Joseph. "Using a Simple Technique to Describe Characteristics of a Collection." College & Research Libraries 38 (May 1977): 195-202.

Grant, Robert J. "Predicting the Need for Multiple Copies of Books." Journal of Library Automation. 4 (June 1971): 127-142.

Harley, J. "Quality Versus Quantity." Library Review 109 (Spring 1954): 284-286.

Hendricks, Donald D. "Standards for College Libraries." Texas Library Journal 48 (May 1972): 74-76.

Hirsch, Rudolph. "Evaluation of Book Collections." In Library Evaluation, pp. 7-20. Edited by Wayne S. Yenawine. Syracuse, N.Y.: Syracuse University, 1959.

Ifidon, Sam E. "Qualitative/Quantitative Evaluation of Academic Library Collections: A Literature Survey." International Library Review 8 (June 1976): 299-308.

Jenks, George M. "Circulation and Its Relationship to the Book Collection and Academic Departments." College & Research Libraries 37 (March 1976): 145-152.

Kaser, David. "Cornell Collection Development." AB Bookman's Weekly 48 (December 20-27, 1971): 2003.

Kebabian, Paul B. "The Distance to a Star: Subject Measurement of the Library of Congress and University of Florida Collections." College & Research Libraries 27 (July 1969): 267-270.

Knightly, John J. "Library Collections and Academic Curricula: Quantitative Relationships." College & Research Libraries 36 (July 1975): 295-301.

Kohut, Joseph J. and Walker, John F. "Allocating the Book Budget: Equity and Economic Efficiency." College & Research Libraries 36 (September 1975): 403-410.

Ludington, Flora B. "Evaluating the Adequacy of the Book Collection." College & Research Libraries 1 (September 1940): 305-313.

Lyle, Guy R. The Administration of the College Library. 3d Edition. New York: Wilson Co., 1961.

McCrum, Blanche P. "A College Library Makes Its Own Survey Plan." ALA Bulletin 31 (1937): 947-952.

McGrath, William E. "The Significance of Books Used According to a Classified Profile of Academic Departments." College & Research Libraries 33 (May 1972): 212-219.

McGrath, William E. and Durand, Norma. "Classifying Courses in the University Catalog." College & Research Libraries 30 (November 1969): 533-530.

Machlup, Fritz. "Our Libraries: Can We Measure Their Holdings and Acquisitions?" AAUP Bulletin 62 (October 1976): 303-307.

McInnis, R. M. "The Formula Approach to Library Size, an Empirical Study of Its Efficacy in Evaluating Research Libraries." College & Research Libraries 33 (May 1972): 190-198.

Martell, Charles. Letter to the editor. College & Research Libraries 33 (November 1972): 485-486.

Middle States Association of College and Secondary Schools. Commission on Institutions of Higher Learning. "What to Consider in Evaluating the Library." Library Journal 83 (June 1, 1958): 1656-1658.

Mount, Ellis and Pasana, Paul. "An Approach to the Measurement of Use and Cost of a Large Academic Research Library System: A Report of a Study Done at Columbia University Libraries." College & Research Libraries 33 (May 1972): 199-211.

Ottersen, Signe. "A Bibliography on Standards for Evaluating Libraries." College & Research Libraries 32 (March 1971): 127-144.

"Pitt Study Pegs Faulty Acquisition Patterns." Library Journal 102 (July 1977): 1438.

Pratt, Allan D. "Libraries, Economics, & Information: Recent Trends in Information Science Literature." College & Research Libraries 36 (January 1975): 33-38.

Schofield, J. L.; Cooper, A.; and Waters, D. H. "Evaluation of an Academic Library's Stock Effectiveness." Journal of Librarianship 7 (July 1975): 207-227.

Simon, Ralph C. "A Delphi Approach to a Selected Book Retirement Policy." Paper presented at the American Society for Engineering Education Annual Conference, Lubbock, Texas, 19-22 June 1972.

Tauber, Maurice F. "Survey Methods in Approaching Library Problems." Library Trends 13 (July 1964): 15-30.

Tauber, Maurice F. and Stephens, Irlene R., eds. Library Surveys. New York: Columbia University Press, 1967.

Turner, Stephen J. "The Identifier Method of Measuring Use as Applied to Modeling the Circulation Use of Books from a University Library." Journal of the American Society for Information Science 28 (March 1977): 96-100.

Webb, William. "Project CoED: A University Library Collection Evaluation and Development Program." Library Resources & Technical Services 13 (Fall 1969): 457-462

Weeks, Kenneth. "Determination of Pre-Acquisition Predictors of Book Use. Final Report." Berkeley, Ca.: University of California, Berkeley, Institute of Library Research, July 1973.

White, Howard D. "Numeric Data Files: An Introduction." Drexel Library Quarterly 13 (January 1977).